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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/087,807	MITOMO ET AL.
	Examiner	Art Unit	
	BENJAMIN AILES	2142	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *17 April 2008*.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1,2,4,6-34,36 and 38-67* is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) *1,2,4,6-34,36 and 38-67* is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a)☐ All   b)☐ Some * c)☐ None of:
   1.☐ Certified copies of the priority documents have been received.
   2.☐ Certified copies of the priority documents have been received in Application No. _____.
   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/09/2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

DETAILED ACTION

1.   This action is in response to correspondence filed 17 April 2008.

2.   Claims 1, 2, 4, 6-34, 36, and 38-67 remain pending.

Response to Amendment

3.   Applicant's amendment to claims 68 and claim 69 has been entered into the

record and overcomes the prior claim rejection under 35 USC 112, second paragraph.

The rejection has been withdrawn.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

6.   Claims 1, 2, 4, 6-19, 26-30, 33, 34, 36, 38-51, 58-62, 65-67 are rejected under 35

U.S.C. 103(a) as being unpatentable over Howard in view of Carter et al. (US

2003/0051026), hereinafter referred to as Carter.

7.   Regarding claim 1, Howard teaches a filtering apparatus which is interposed

between a client and a server providing a service in accordance with each of access

requests from the client, and which transmits only a legal access request among the

access requests to the server, the filtering apparatus comprising:

        an illegal pattern database which stores patterns of illegal accesses to the server

(col. 7, ll. 24-30, Howard discloses the use of a memory location containing one or more

patterns that have been defined and make up a pattern collection);

        a pattern estimation unit which estimates legality of an access request based on

the illegal access patterns stored in the illegal pattern database and on a predetermined

pattern estimation rule (col. 7, line 66 – col. 8, line 20, Howard teaches the evaluation of

input strings to determine the presence of input strings.);

        a pattern determination unit which determines whether each access request is to

be transmitted to the server based on the estimation by the pattern estimation unit and

on a predetermined pattern determination rule, the pattern determination unit producing

a determination result (col. 8, ll. 21-23, Howard teaches that if it is determined that

attack patterns are present, then remedial actions are taken as necessary to eliminate

risks to the server system).

        a transmission unit which controls transmission of the access request based on

determination result of the pattern determination unit so as to transmit the access

request to the server when the access request is estimated to be legal, and so as to

reject transmission of the access request to the server and so as to abandon the

request when the access request is estimated to be illegal (col. 7, ll. 36-58, Howard

teaches that if no attack patterns have been found, then processing continues as

normal and if it is determined that the input string contains attack pattern(s) then

remedial action is taken, including the denial of a request altogether from the client to

the server.).

Howard does not explicitly teach of wherein the pattern estimation unit calculates

a predetermined estimation value according to a degree of correspondence of the

access requests to the illegal access patterns stored in the illegal pattern database; and

the pattern determination unit compares the estimation value calculated by the pattern

estimation unit with a predetermined threshold value, and determines whether the

access request is to be transmitted to the server. However, Carter teaches on this

aspect in paragraph 0006 and 0447 wherein Carter teaches the calculation of

comparisons to prior occurrences to infer appropriate countermeasures and wherein the

knowledge learned from new threats may be communicated to other systems. One of

ordinary skill in the art at the time of the applicant's invention would have found it

obvious to combine what Carter teaches with Howard. One of ordinary skill in the art at

the time of invention would have been motivated to make the above mentioned

modifications for the reasons discussed in Carter wherein Carter teaches the ability to

expand a knowledge base with information relating to unanticipated events is desirable

in a network system.

8.   Regarding claim 2, Howard and Carter teach the filtering apparatus wherein

the pattern estimation unit estimates that each of the access requests is an illegal

access if the access request corresponds to any one of the illegal access patterns

stored in the illegal pattern database, and estimates that the access request is a legal

access if the access request does not correspond to any one of the illegal access

patterns stored in the illegal pattern database (Howard, col. 8, ll. 21-23, Howard teaches

that if it is determined that attack patterns are present, then remedial actions are taken

as necessary to eliminate risks to the server system); and

the pattern determination unit determines that the access request estimated as

the illegal access by the pattern estimation unit is not to be transmitted to the server,

and determines that the access request estimated as the legal access by the pattern

estimation unit is to be transmitted to the server (Howard, col. 8, ll. 21-23, Howard

teaches that if it is determined that attack patterns are present, then remedial actions

are taken as necessary to eliminate risks to the server system).

9.   Regarding claim 4, Howard and Carter teach about a legal pattern database

which stores … and a predetermination unit which predetermines whether each of the

access requests corresponds… (Howard, col. 7, ll. 36-58). Howard does not explicitly

teach of wherein the pattern estimation unit estimates the legality of only the access

request determined not to correspond to any one of the legal access patterns by the

predetermination unit. Carter teaches on this aspect Paragraph [0006].   One of

ordinary skill in the art at the time of invention would have been motivated to make the

above mentioned modifications for the reasons discussed in Carter, Paragraph[0005].

10.   Regarding claim 6, Howard and Carter teach a filtering apparatus further comprising a storage unit which stores each of the access requests determined not to be transmitted to the server by the pattern determination unit, in a predetermined storage medium based on a predetermined storage rule (Howard, fig. 4, storage unit).

11.   Regarding claim 7, Howard and Carter teach the need for an update unit which updates the illegal pattern database (Howard, col. 7, ll. 24-26).

12.   Regarding claim 8, Howard and Carter teach about an access request transmission unit which transmits, as a legal access request, (Howard, col. 7, ll. 36-58) but does not explicitly teach of only the access request determined to be transmitted to the server by the pattern and statistic determination units, to the server statistically illegal request database .... from the statistic of the access requests for the server; a statistic estimation unit ... a statistic determination unit; Carter implicitly teaches on these aspects. Carter teaches of using statistical analysis to detect anomalous events (Page 58, 2nd Col, Claim 20).   One of ordinary skill in the art at the time of invention would have been motivated to make the above mentioned modifications for the reasons discussed in Carter, Paragraph [0005].

13.   Regarding claim 9, Howard and Carter teach the filtering apparatus wherein the statistically illegal request database stores transmitting end information on the clients each of which issues access requests within a predetermined time, the number of the access requests exceeding a predetermined number, among the clients who transmit the access requests to the server (Carter, Page 58, 2nd Col, Claim 20, Paragraph [0205,0204,0216]);

the statistic estimation unit estimates that each of the access requests is the

illegal access if the transmitting end information on the access request corresponds to

any one of the transmitting end information stored in the statistically illegal request

database, and estimates that the access request is the legal access if the transmitting

end information on the access request does not correspond to any one of the

transmitting end information stored in the statistically illegal request database (Carter,

Page 58, 2nd Col, Claim 20, Paragraph [0205,0204,0216]); and

the statistic determination unit determines that the access request estimated as

the illegal access by the statistic estimation unit is not to be transmitted to the server,

and determines that the access request estimated as the legal access by the statistic

estimation unit is to be transmitted to the server (Carter, Page 58, 2nd Col, Claim 20,

Paragraph [0205,0204,0216]).

14.   Regarding claim 10, Howard and Carter teach the filtering apparatus wherein

the statistically illegal request database stores request contents of the access

requests within a predetermined time, the number of the access requests of each

request content exceeding a predetermined number, among request contents of the

access requests transmitted to the server (Carter, Page 58, 2nd Col, Claim 20,

Paragraph [0205,0204,0216]);

the statistic estimation unit estimates that the access request of each of the

access requests is the illegal access if the request content of the access request

corresponds to any one of the request contents stored in the statistically illegal request

database, and estimates that the access request is the legal access if the request

content of the access request does not correspond to any one of the request contents

stored in the statistically illegal request database (Carter, Page 58, 2nd Col, Claim 20,

Paragraph [0205,0204,0216]); and

the statistic determination unit determines that the access request estimated as

the illegal access by the statistic estimation unit is not to be transmitted to the server,

and determines that the access request estimated as the legal access by the statistic

estimation unit is to be transmitted to the server (Carter, Page 58, 2nd Col, Claim 20,

Paragraph [0205,0204,0216]).

15.   Regarding claim 11, Howard and Carter teach the filtering apparatus wherein

the statistically illegal request database stores transmitting end information on

the clients each of which issues access requests, the number of which exceeds a

predetermined number within a predetermined time, among the clients who transmit the

access requests to the server, and stores request contents of the access requests, the

number of which exceeds a predetermined number within a predetermined time, among

the request contents of the access requests transmitted to the server (Carter, Page 58,

2nd Col, Claim 20, Paragraph [0205,0204,0216]);

the statistic estimation unit estimates that each of the access requests is the

illegal access if the transmitting end information on the access request corresponds to

any one of the transmitting end information stored in the statistically illegal request

database or the request content of the access request corresponds to any one of the

request contents stored in the statistically illegal request database, and estimates that

the access request is the legal access if the transmitting end information on the access

request does not correspond to any one of the transmitting end information stored in the

statistically illegal request database and the request content of the access requests

does not correspond to any one of the request contents stored in the statistically illegal

request database (Carter, Page 58, 2nd Col, Claim 20, Paragraph [0205,0204,0216]);

the statistic determination unit determines that the access request estimated as

the illegal access by the statistic estimation unit is not to be transmitted to the server,

and determines that the access request estimated as the legal access by the statistic

estimation unit is to be transmitted to the server (Carter, Page 58, 2nd Col, Claim 20,

Paragraph [0205,0204,0216]).

16.   Regarding claim 12, Howard and Carter teach the filtering apparatus wherein

the statistically illegal request database stores transmitting end information on

the clients each of which issues access requests, the number of which exceeds a

predetermined number within a predetermined time, among the clients who transmit the

access requests to the server, and stores request contents of the access requests, the

number of which a predetermined number within a predetermined time, among the

request contents of the access requests transmitted to the server (Carter, Paragraph

[0204-0205, 0216,0006]);

the statistic estimation unit calculates a predetermined estimation value

according to a degree to which the transmitting end information on each of the access

requests to the request content of the access request correspond to the transmitting

end information and the request contents stored in the statistically illegal request

database, respectively (Carter, Paragraph [0204-0205, 0216,0006]); and

the statistic determination unit compares the estimation value calculated by the statistic estimation unit with a predetermined threshold value, and determines whether the access request is to be transmitted to the server (Carter, Paragraph [0204-0205, 0216,0006]).

17.   Regarding claim 13, Howard and Carter teach the filtering apparatus according to claim 8, wherein the statistic estimation unit estimates the legality of only the access request determined to be transmitted to the server by the pattern determination unit (Carter, Paragraph [0204-0205, 0216,0006]).

18.   Regarding claim 14, Howard and Carter teach the filtering apparatus according to claim 8, wherein the pattern estimation unit estimates the legality of only the access request determined to be transmitted to the server by the statistic determination unit (Carter, Paragraph [0204-0205, 0216,0006]).

19.   Regarding claim 15, Howard and Carter teach he filtering apparatus according to claim 8, wherein the predetermination unit predetermines whether only the access request determined to be transmitted to the server by the statistic determination unit corresponds to any one of the legal access patterns stored in the legal pattern database (Carter, Paragraph [0204-0205, 0216,0006]).

20.   Regarding claim 16, Howard and Carter teach the filtering apparatus according to claims 8, further comprising a external transmission unit which transmits the access requests which are not transmitted to the server by the access request transmission unit, to the predetermined external device based on a predetermined external transmission rule (Carter, Paragraph [0006, lines 17-19).

21.   Regarding claim 17, Howard and Carter teach the filtering apparatus according to claim 8, further comprising a storage unit which stores the access requests which are not transmitted to the server by the access request transmission unit, to the predetermined storage medium based on a predetermined storage rule (Howard, Fig 4 storage).

22.   Regarding claim 18, Howard and Carter teach the filtering apparatus according to claim 8, further comprising a update unit which updates the statistically illegal request database, the statistic estimation rule, the statistic determination rule, the external transmission rule, and at least one of the storage rule and a predetermined update rule, based on at least one of the predetermined update rule and the statistic of the access requests to the server (Howard, col. 7, ll. 24-26).

23.   Regarding claim 19, Howard and Carter teach the filtering apparatus according to claim 18, wherein the update unit performs any one or both of addition and deletion of at least one of the transmitting end information and the request contents stored in the statistically illegal request database, according to any one or both of the number of access requests for each client who transmits the access requests to the server within the predetermined time and the number of access requests for each request content of the access requests transmitted to the server within the predetermined time (Howard, col. 7, ll. 24-26).

24.   Regarding claim 26, Howard and Carter teach the filtering apparatus according to claim 1, further comprising

an access request decryption unit which decrypts an access request which has

been subjected to a predetermined encryption processing, wherein the pattern

estimation unit, the predetermination unit or the statistic estimation unit estimates or

determines the access request decrypted by the access request decryption unit (Carter,

Paragraph [0225-0226]).

25.   Regarding claim 27, Howard and Carter teach the filtering apparatus according to

claim 26, wherein if only the legal access request among the access requests is to be

transmitted to the server, not the access request decrypted by the access request

decryption unit but the access request which has been subjected to the predetermined

encryption processing is transmitted to the server (Carter, Paragraph [0225-0226])

26.   Regarding claim 28, Howard and Carter teach the filtering apparatus according to

claim 26, further comprising a response decryption unit which decrypts a response

which has been subjected to a predetermined encryption processing, wherein the

response estimation unit estimates the response decrypted by the response decryption

unit (Carter, Paragraph [0225-0226])

27.   Regarding claim 29, Howard and Carter teach the filtering apparatus according to

claim 28, wherein if only the legal response among the responses is to be transmitted to

the client, not the response decrypted by the response decryption unit but the response

which has been subjected to the predetermined encryption processing is transmitted to

the client (Carter, Paragraph [0225-0226])

28.   Regarding claim 30, Howard and Carter teach the filtering apparatus according to

claim 1, further comprising:

a pseudo-response database which stores pseudo-responses corresponding to the patterns of the illegal accesses to the server, respectively, and each indicating that the corresponding illegal access is successful or successfully proceeding (Howard, Figure 4);

a pseudo-response creation unit which creates pseudo-responses corresponding to the patterns of the access requests, each of which is determined as the illegal access and is not transmitted to the server, respectively while referring to the pseudo-response database (Howard, Figure 4); and

a pseudo-response transmission unit which transmits the pseudo-responses created by the pseudo-response creation unit to the clients, respectively (Howard, Figure 4).

29.   Regarding claim 33, Howard teaches a filtering method used on a client and a server providing a service in accordance with each of access requests from the client, and which transmits only a legal access request among the access requests to the server, the method comprising:

a pattern estimation step of referring to an illegal pattern database which stores patterns of illegal accesses to the server, and estimating legality of an access request based on the illegal access patterns referred to and on a predetermined pattern estimation rule (col. 7, line 66 – col. 8, line 20, Howard teaches the evaluation of input strings to determine the presence of input strings.);

a pattern determination step of determining whether the access request is to be transmitted to the server based on an estimation result at the pattern estimation step

and on a predetermined pattern determination rule (col. 8, ll. 21-23, Howard teaches

that if it is determined that attack patterns are present, then remedial actions are taken

as necessary to eliminate risks to the server system); and

a transmission controlling step of controlling transmission of the access request

based on determination result of the pattern determination step so as to transmit the

access request to the server when the access request is estimated to be legal, and so

as to reject transmission of the access request to the server and so as to abandon the

request when the access request is estimated to be illegal (col. 7, ll. 36-58, Howard

teaches that if no attack patterns have been found, then processing continues as

normal and if it is determined that the input string contains attack pattern(s) then

remedial action is taken, including the denial of a request altogether from the client to

the server.);

wherein the pattern estimation step includes calculating a predetermined

estimation value according to a degree of correspondence of the access requests to the

illegal access patterns stored in the illegal pattern database; and

the pattern determination step includes comparing the estimation value

calculated in the pattern estimation step with a predetermined threshold value, and

determining whether the access request is to be transmitted to the server.

Howard does not explicitly teach of wherein the pattern estimation unit calculates

a predetermined estimation value according to a degree of correspondence of the

access requests to the illegal access patterns stored in the illegal pattern database; and

the pattern determination unit compares the estimation value calculated by the pattern

estimation unit with a predetermined threshold value, and determines whether the

access request is to be transmitted to the server. However, Carter teaches on this

aspect in paragraph 0006 and 0447 wherein Carter teaches the calculation of

comparisons to prior occurrences to infer appropriate countermeasures and wherein the

knowledge learned from new threats may be communicated to other systems. One of

ordinary skill in the art at the time of the applicant's invention would have found it

obvious to combine what Carter with Howard teaches. One of ordinary skill in the art at

the time of invention would have been motivated to make the above mentioned

modifications for the reasons discussed in Carter wherein Carter teaches the ability to

expand a knowledge base with information relating to unanticipated events is desirable

in a network system.

30.   Regarding claim 34, Howard discloses the filtering apparatus wherein

        the pattern estimation unit estimates that each of the access requests is an illegal

access if the access request corresponds to any one of the illegal access patterns

stored in the illegal pattern database, and estimates that the access request is a legal

access if the access request does not correspond to any one of the illegal access

patterns stored in the illegal pattern database (col. 8, ll. 21-23, Howard teaches that if it

is determined that attack patterns are present, then remedial actions are taken as

necessary to eliminate risks to the server system); and

        the pattern determination unit determines that the access request estimated as

the illegal access by the pattern estimation unit is not to be transmitted to the server,

and determines that the access request estimated as the legal access by the pattern

estimation unit is to be transmitted to the server (col. 8, ll. 21-23, Howard teaches that if

it is determined that attack patterns are present, then remedial actions are taken as

necessary to eliminate risks to the server system).

31.   Regarding claim 36, Howard and Carter teach about a legal pattern database

which stores … and a predetermination unit which predetermines whether each of the

access requests corresponds… (Howard, col. 7, ll. 36-58). Howard does not explicitly

teach of wherein the pattern estimation unit estimates the legality of only the access

request determined not to correspond to any one of the legal access patterns by the

predetermination unit. Carter teaches on this aspect Paragraph [0006].   One of

ordinary skill in the art at the time of invention would have been motivated to make the

above mentioned modifications for the reasons discussed in Carter, Paragraph[0005].

32.   Regarding claim 38, Howard and Carter teach the filtering method according to

claim 33, further comprising a storage step of storing each of the access requests

determined not to be transmitted to the server in the pattern determination step, in a

predetermined storage medium based on a predetermined storage rule (Howard, Fig 4

storage).

33.   Regarding claim 39, Howard and Carter teach the filtering method according to

claim 33, further comprising an update step of updating the illegal pattern database, the

legal pattern database, the pattern estimation rule, the pattern determination rule, the

external transmission rule, the storage rule, or a predetermined update rule, based on

the predetermined update rule (Howard, col. 7, ll. 24-26).

34.   Regarding claim 40, Howard and Carter teach about an access request

transmission unit which transmits, as a legal access request, (Howard, col. 7, ll. 36-58)

but does not explicitly teach of only the access request determined to be transmitted to

the server by the pattern and statistic determination units, to the server statistically

illegal request database …. from the statistic of the access requests for the server; a

statistic estimation unit … a statistic determination unit; Carter implicitly teaches on

these aspects. Carter teaches of using statistical analysis to detect anomalous events

(Page 58, 2nd Col, Claim 20).   One of ordinary skill in the art at the time of invention

would have been motivated to make the above mentioned modifications for the reasons

discussed in Carter, Paragraph [0005].

35.   Regarding claim 41, Howard and Carter teach the filtering apparatus wherein the

statistically illegal request database stores transmitting end information on the clients

each of which issues access requests within a predetermined time, the number of the

access requests exceeding a predetermined number, among the clients who transmit

the access requests to the server (Carter, Page 58, 2nd Col, Claim 20, Paragraph

[0205,0204,0216]);

        the statistic estimation unit estimates that each of the access requests is the

illegal access if the transmitting end information on the access request corresponds to

any one of the transmitting end information stored in the statistically illegal request

database, and estimates that the access request is the legal access if the transmitting

end information on the access request does not correspond to any one of the

transmitting end information stored in the statistically illegal request database (Carter, Page 58, 2nd Col, Claim 20, Paragraph [0205,0204,0216]); and

the statistic determination unit determines that the access request estimated as the illegal access by the statistic estimation unit is not to be transmitted to the server, and determines that the access request estimated as the legal access by the statistic estimation unit is to be transmitted to the server (Carter, Page 58, 2nd Col, Claim 20, Paragraph [0205,0204,0216]).

36.   Regarding claim 42, Howard and Carter teach the filtering apparatus wherein

the statistically illegal request database stores request contents of the access requests within a predetermined time, the number of the access requests of each request content exceeding a predetermined number, among request contents of the access requests transmitted to the server (Carter, Page 58, 2nd Col, Claim 20, Paragraph [0205,0204,0216]);

the statistic estimation unit estimates that the access request of each of the access requests is the illegal access if the request content of the access request corresponds to any one of the request contents stored in the statistically illegal request database, and estimates that the access request is the legal access if the request content of the access request does not correspond to any one of the request contents stored in the statistically illegal request database (Carter, Page 58, 2nd Col, Claim 20, Paragraph [0205,0204,0216]); and

the statistic determination unit determines that the access request estimated as the illegal access by the statistic estimation unit is not to be transmitted to the server,

and determines that the access request estimated as the legal access by the statistic

estimation unit is to be transmitted to the server (Carter, Page 58, 2nd Col, Claim 20,

Paragraph [0205,0204,0216]).

37.   Regarding claim 43, Howard and Carter teach the filtering apparatus wherein

the statistically illegal request database stores transmitting end information on

the clients each of which issues access requests, the number of which exceeds a

predetermined number within a predetermined time, among the clients who transmit the

access requests to the server, and stores request contents of the access requests, the

number of which exceeds a predetermined number within a predetermined time, among

the request contents of the access requests transmitted to the server (Carter, Page 58,

2nd Col, Claim 20, Paragraph [0205,0204,0216]);

the statistic estimation unit estimates that each of the access requests is the

illegal access if the transmitting end information on the access request corresponds to

any one of the transmitting end information stored in the statistically illegal request

database or the request content of the access request corresponds to any one of the

request contents stored in the statistically illegal request database, and estimates that

the access request is the legal access if the transmitting end information on the access

request does not correspond to any one of the transmitting end information stored in the

statistically illegal request database and the request content of the access requests

does not correspond to any one of the request contents stored in the statistically illegal

request database (Carter, Page 58, 2nd Col, Claim 20, Paragraph [0205,0204,0216]);

the statistic determination unit determines that the access request estimated as the illegal access by the statistic estimation unit is not to be transmitted to the server, and determines that the access request estimated as the legal access by the statistic estimation unit is to be transmitted to the server (Carter, Page 58, 2nd Col, Claim 20, Paragraph [0205,0204,0216]).

38.   Regarding claim 44, Howard and Carter teach the filtering apparatus wherein

the statistically illegal request database stores transmitting end information on the clients each of which issues access requests, the number of which exceeds a predetermined number within a predetermined time, among the clients who transmit the access requests to the server, and stores request contents of the access requests, the number of which a predetermined number within a predetermined time, among the request contents of the access requests transmitted to the server (Carter, Paragraph [0204-0205, 0216,0006]);

the statistic estimation unit calculates a predetermined estimation value according to a degree to which the transmitting end information on each of the access requests to the request content of the access request correspond to the transmitting end information and the request contents stored in the statistically illegal request database, respectively (Carter, Paragraph [0204-0205, 0216,0006]); and

the statistic determination unit compares the estimation value calculated by the statistic estimation unit with a predetermined threshold value, and determines whether the access request is to be transmitted to the server (Carter, Paragraph [0204-0205, 0216,0006]).

39.   Regarding claim 45, Howard and Carter teach the filtering apparatus according to claim 8, wherein the statistic estimation unit estimates the legality of only the access request determined to be transmitted to the server by the pattern determination unit (Carter, Paragraph [0204-0205, 0216,0006]).

40.   Regarding claim 46, Howard and Carter teach the filtering apparatus according to claim 8, wherein the pattern estimation unit estimates the legality of only the access request determined to be transmitted to the server by the statistic determination unit (Carter, Paragraph [0204-0205, 0216,0006]).

41.   Regarding claim 47, Howard and Carter teach he filtering apparatus according to claim 8, wherein the predetermination unit predetermines whether only the access request determined to be transmitted to the server by the statistic determination unit corresponds to any one of the legal access patterns stored in the legal pattern database (Carter, Paragraph [0204-0205, 0216,0006]).

42.   Regarding claim 48, Howard and Carter teach the filtering apparatus further comprising a external transmission unit which transmits the access requests which are not transmitted to the server by the access request transmission unit, to the predetermined external device based on a predetermined external transmission rule (Carter, Paragraph [0006, lines 17-19).

43.   Regarding claim 49, Howard and Carter teach the filtering apparatus further comprising a storage unit which stores the access requests which are not transmitted to the server by the access request transmission unit, to the predetermined storage medium based on a predetermined storage rule (Howard, Figure 4).

44.   Regarding claim 50, Howard and Carter teach the filtering apparatus further

comprising a update unit which updates the statistically illegal request database, the

statistic estimation rule, the statistic determination rule, the external transmission rule,

and at least one of the storage rule and a predetermined update rule, based on at least

one of the predetermined update rule and the statistic of the access requests to the

server (Howard, col. 7, ll. 24-26).

45.   Regarding claim 51, Howard and Carter teach the filtering apparatus wherein the

update unit performs any one or both of addition and deletion of at least one of the

transmitting end information and the request contents stored in the statistically illegal

request database, according to any one or both of the number of access requests for

each client who transmits the access requests to the server within the predetermined

time and the number of access requests for each request content of the access

requests transmitted to the server within the predetermined time (Howard, col. 7, ll. 24-

26).

46.   Regarding claim 58, Howard and Carter teach the filtering apparatus further

comprising

        an access request decryption unit which decrypts an access request which has

been subjected to a predetermined encryption processing, wherein the pattern

estimation unit, the predetermination unit or the statistic estimation unit estimates or

determines the access request decrypted by the access request decryption unit (Carter,

Paragraph [0225-0226])

47.   Regarding claim 59, Howard and Carter teach the filtering apparatus wherein if only the legal access request among the access requests is to be transmitted to the server, not the access request decrypted by the access request decryption unit but the access request which has been subjected to the predetermined encryption processing is transmitted to the server (Carter, Paragraph [0225-0226])

48.   Regarding claim 60, Howard and Carter teach the filtering apparatus further comprising a response decryption unit which decrypts a response which has been subjected to a predetermined encryption processing, wherein the response estimation unit estimates the response decrypted by the response decryption unit (Carter, Paragraph [0225-0226])

49.   Regarding claim 61, Howard and Carter teach the filtering apparatus wherein if only the legal response among the responses is to be transmitted to the client, not the response decrypted by the response decryption unit but the response which has been subjected to the predetermined encryption processing is transmitted to the client (Carter, Paragraph [0225-0226])

50.   Regarding claim 62, Howard and Carter teach the filtering apparatus further comprising:

        a pseudo-response database which stores pseudo-responses corresponding to the patterns of the illegal accesses to the server, respectively, and each indicating that the corresponding illegal access is successful or successfully proceeding (Howard, Figure 4);

a pseudo-response creation unit which creates pseudo-responses corresponding

to the patterns of the access requests, each of which is determined as the illegal access

and is not transmitted to the server, respectively while referring to the pseudo-response

database (Howard, Figure 4); and

a pseudo-response transmission unit which transmits the pseudo-responses

created by the pseudo-response creation unit to the clients, respectively (Howard,

Figure 4).

51.   Regarding claim 65, Howard teaches a filtering method used on a client and a

server providing a service in accordance with each of access requests from the client,

and which transmits only a legal access request among the access requests to the

server, the method comprising:

a pattern estimation step of referring to an illegal pattern database which stores

patterns of illegal accesses to the server, and estimating legality of an access request

based on the illegal access patterns referred to and on a predetermined pattern

estimation rule (col. 7, line 66 – col. 8, line 20, Howard teaches the evaluation of input

strings to determine the presence of input strings.);

a pattern determination step of determining whether the access request is to be

transmitted to the server based on an estimation result at the pattern estimation step

and on a predetermined pattern determination rule (col. 8, ll. 21-23, Howard teaches

that if it is determined that attack patterns are present, then remedial actions are taken

as necessary to eliminate risks to the server system); and

a transmission controlling step of controlling transmission of the access request

based on determination result of the pattern determination step so as to transmit the

access request to the server when the access request is estimated to be legal, and so

as to reject transmission of the access request to the server and so as to abandon the

request when the access request is estimated to be illegal (col. 7, ll. 36-58, Howard

teaches that if no attack patterns have been found, then processing continues as

normal and if it is determined that the input string contains attack pattern(s) then

remedial action is taken, including the denial of a request altogether from the client to

the server.);

wherein the pattern estimation step includes calculating a predetermined

estimation value according to a degree of correspondence of the access requests to the

illegal access patterns stored in the illegal pattern database; and

the pattern determination step includes comparing the estimation value

calculated in the pattern estimation step with a predetermined threshold value, and

determining whether the access request is to be transmitted to the server.

Howard does not explicitly teach of wherein the pattern estimation unit calculates

a predetermined estimation value according to a degree of correspondence of the

access requests to the illegal access patterns stored in the illegal pattern database; and

the pattern determination unit compares the estimation value calculated by the pattern

estimation unit with a predetermined threshold value, and determines whether the

access request is to be transmitted to the server. However, Carter teaches on this

aspect in paragraph 0006 and 0447 wherein Carter teaches the calculation of

comparisons to prior occurrences to infer appropriate countermeasures and wherein the

knowledge learned from new threats may be communicated to other systems. One of

ordinary skill in the art at the time of the applicant's invention would have found it

obvious to combine what Carter with Howard teaches. One of ordinary skill in the art at

the time of invention would have been motivated to make the above mentioned

modifications for the reasons discussed in Carter wherein Carter teaches the ability to

expand a knowledge base with information relating to unanticipated events is desirable

in a network system.

52.   Regarding claim 66, Howard discloses a filtering apparatus which is interposed

between a client and a server providing a service in accordance with each of access

requests from the client, and which transmits only a legal access request among the

access requests to the server, the filtering apparatus comprising:

an illegal pattern database which stores patterns of illegal accesses to the server

(col. 7, ll. 24-30, Howard discloses the use of a memory location containing one or more

patterns that have been defined and make up a pattern collection);

a pattern estimation unit which estimates legality of an access request based on

the illegal access patterns stored in the illegal pattern database and on a predetermined

pattern estimation rule (col. 7, line 66 – col. 8, line 20, Howard teaches the evaluation of

input strings to determine the presence of input strings.);

a pattern determination unit which determines whether each access request is to

be transmitted to the server based on the estimation by the pattern estimation unit and

on a predetermined pattern determination rule, the pattern determination unit producting

a determination result (col. 8, ll. 21-23, Howard teaches that if it is determined that

attack patterns are present, then remedial actions are taken as necessary to eliminate

risks to the server system).

a transmission unit which controls transmission of the access request based on

determination result of the pattern determination unit so as to transmit the access

request to the server when the access request is estimated to be legal, and so as to

reject transmission of the access request to the server and so as to abandon the

request when the access request is estimated to be illegal (col. 7, ll. 36-58, Howard

teaches that if no attack patterns have been found, then processing continues as

normal and if it is determined that the input string contains attack pattern(s) then

remedial action is taken, including the denial of a request altogether from the client to

the server.).

Howard does not explicitly teach of wherein the pattern estimation unit calculates

a predetermined estimation value according to a degree of correspondence of the

access requests to the illegal access patterns stored in the illegal pattern database; and

the pattern determination unit compares the estimation value calculated by the pattern

estimation unit with a predetermined threshold value, and determines whether the

access request is to be transmitted to the server. However, Carter teaches on this

aspect in paragraph 0006 and 0447 wherein Carter teaches the calculation of

comparisons to prior occurrences to infer appropriate countermeasures and wherein the

knowledge learned from new threats may be communicated to other systems. One of

ordinary skill in the art at the time of the applicant's invention would have found it

obvious to combine what Carter with Howard teaches. One of ordinary skill in the art at

the time of invention would have been motivated to make the above mentioned

modifications for the reasons discussed in Carter wherein Carter teaches the ability to

expand a knowledge base with information relating to unanticipated events is desirable

in a network system.

53.   Regarding claim 67, Howard teaches a filtering method comprising:

estimating a legality of an access request based on an illegal access pattern

stored in an illegal pattern database and on a predetermined pattern estimation rule

(col. 7, line 66 – col. 8, line 20, Howard teaches the evaluation of input strings to

determine the presence of input strings.); and

determining whether the access request is to be abandoned based on the

estimation of the legality of the access request (col. 8, ll. 21-23, Howard teaches that if it

is determined that attack patterns are present, then remedial actions are taken as

necessary to eliminate risks to the server system).

Howard does not explicitly teach of wherein the pattern estimation unit calculates

a predetermined estimation value according to a degree of correspondence of the

access requests to the illegal access patterns stored in the illegal pattern database; and

the pattern determination unit compares the estimation value calculated by the pattern

estimation unit with a predetermined threshold value, and determines whether the

access request is to be transmitted to the server. However, Carter teaches on this

aspect in paragraph 0006 and 0447 wherein Carter teaches the calculation of

comparisons to prior occurrences to infer appropriate countermeasures and wherein the

knowledge learned from new threats may be communicated to other systems. One of

ordinary skill in the art at the time of the applicant's invention would have found it

obvious to combine what Carter with Howard teaches. One of ordinary skill in the art at

the time of invention would have been motivated to make the above mentioned

modifications for the reasons discussed in Carter wherein Carter teaches the ability to

expand a knowledge base with information relating to unanticipated events is desirable

in a network system.

54.   Claims 31-32 and 63-64 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Howard and Carter and further in view of Cahill (US 6,535,855).

55.   Regarding claim 31, Howard and Carter do not explicitly teach a decoy unit which

receives the access requests each of which is determined as the illegal access and is

not transmitted to the server, and creates, as a decoy of the sever, pseudo- responses

each indicating that the corresponding illegal access is successful or successfully

proceeding; and a pseudo-response transmission unit which transmits the pseudo-

responses created by the decoy unit to the clients, respectively." In related art, Cahill

teaches on these aspects (Col 12, lines 50-55, Col 13, lines 20-35). One of ordinary

skill in the art at the time of invention would have been motivated to make the above-

mentioned modifications for the reasons discussed in Carter (Paragraph [0026]).

56.   Regarding claim 32, Howard implicitly teaches of a pseudo-response database

which stores pseudo-responses corresponding to the patterns of the illegal accesses …

and a pseudo-response transmission unit which transmits the pseudo-responses

created by the pseudo-response (Fig. 4). Howard does not explicitly teach of a decoy

unit which receives the access requests which do not correspond to the illegal access

patterns stored in the pseudo-response database...Carter teaches of access request

which do not correspond to the illegal access patterns (Col 9, lines 30-65) and Cahill

teaches of a decoy unit (Col 13, lines 20-25). Motivation is the same as discussed in

Claims 8 and Claim 17.

57.   Regarding claim 63, Howard and Carter do not explicitly teach a decoy unit which

receives the access requests each of which is determined as the illegal access and is

not transmitted to the server, and creates, as a decoy of the sever, pseudo- responses

each indicating that the corresponding illegal access is successful or successfully

proceeding; and a pseudo-response transmission unit which transmits the pseudo-

responses created by the decoy unit to the clients, respectively." In related art, Cahill

teaches on these aspects (Col 12, lines 50-55, Col 13, lines 20-35). One of ordinary

skill in the art at the time of invention would have been motivated to make the above-

mentioned modifications for the reasons discussed in Carter (Paragraph [0026]).

58.   Regarding claim 64, Howard implicitly teaches of a pseudo-response database

which stores pseudo-responses corresponding to the patterns of the illegal accesses ...

and a pseudo-response transmission unit which transmits the pseudo-responses

created by the pseudo-response (Fig. 4). Howard does not explicitly teach of a decoy

unit which receives the access requests which do not correspond to the illegal access

patterns stored in the pseudo-response database...Carter teaches of access request

which do not correspond to the illegal access patterns (Col 9, lines 30-65) and Cahill

teaches of a decoy unit (Col 13, lines 20-25). Motivation is the same as discussed in

Claims 8 and Claim 17.

59.   Claims 20-21 and 52-53 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Howard and Carter and further in view of Kashani (US

2002/0165894) and Birrel et al. (US 2003/0135555 A1).

60.   Regarding claim 20, Howard and Carter teach about a database with stores

patterns of illegal request (col. 7, ll. 36-58) but does not explicitly teach the filtering

apparatus further comprising: an illegal response database which stores patterns of

illegal responses which should not be transmitted to each of the clients among the

responses transmitted from the server to each of the clients as the service in

accordance with the respective access requests; a response estimation unit which

estimates the legality of each of the responses based on the illegal response patterns

stored in the illegal response database and a predetermined response estimation rule; a

response determination unit which determines whether the response is to be

transmitted to the client based on an estimation result of the response estimation unit

and on a predetermined response determination rule; and a response transmission unit

which transmits, as a legal response, only the response determined to be transmitted to

the client by the response determination unit, to the client. However, in related art,

Kashani teaches on this aspect (Paragraph [0120]). One of ordinary skill in the art at

the time of invention would be motivated to make the above-mentioned modifications for

the reasons discussed in an analogous art (Birrel, Paragraph [0004]).

61.   Regarding claim 21, Howard and Carter teach about a database with stores patterns of illegal request (col. 7, ll. 36-58) but does not explicitly teach the filtering apparatus wherein the response estimation unit estimates that the response is an illegal response if the response corresponds to any one of the illegal response patterns stored in the illegal response database, and estimates that the response is a legal response if the response does not correspond to any one of the illegal response patterns stored in the illegal response database; and the response determination unit determines that the response estimated as the illegal response by the response estimation unit, is not to be transmitted to the client, and determines that the response estimated as the legal response by the response estimation unit, is to be transmitted to the client. However, in related art, Kashani teaches on this aspect (Paragraph [0120]). One of ordinary skill in the art at the time of invention would be motivated to make the above-mentioned modifications for the reasons discussed in an analogous art (Birrel, Paragraph [0004]).

62.   Regarding claim 52, Howard and Carter teach about a database with stores patterns of illegal request (col. 7, ll. 36-58) but does not explicitly teach the filtering apparatus further comprising: an illegal response database which stores patterns of illegal responses which should not be transmitted to each of the clients among the responses transmitted from the server to each of the clients as the service in accordance with the respective access requests; a response estimation unit which estimates the legality of each of the responses based on the illegal response patterns stored in the illegal response database and a predetermined response estimation rule; a response determination unit which determines whether the response is to be

transmitted to the client based on an estimation result of the response estimation unit

and on a predetermined response determination rule; and a response transmission unit

which transmits, as a legal response, only the response determined to be transmitted to

the client by the response determination unit, to the client. However, in related art,

Kashani teaches on this aspect (Paragraph [0120]). One of ordinary skill in the art at

the time of invention would be motivated to make the above-mentioned modifications for

the reasons discussed in an analogous art (Birrel, Paragraph [0004]).

63.   Regarding claim 53, Howard and Carter teach about a database with stores

patterns of illegal request (col. 7, ll. 36-58) but does not explicitly teach the filtering

apparatus wherein the response estimation unit estimates that the response is an illegal

response if the response corresponds to any one of the illegal response patterns stored

in the illegal response database, and estimates that the response is a legal response if

the response does not correspond to any one of the illegal response patterns stored in

the illegal response database; and the response determination unit determines that the

response estimated as the illegal response by the response estimation unit, is not to be

transmitted to the client, and determines that the response estimated as the legal

response by the response estimation unit, is to be transmitted to the client. However, in

related art, Kashani teaches on this aspect (Paragraph [0120]). One of ordinary skill in

the art at the time of invention would be motivated to make the above-mentioned

modifications for the reasons discussed in an analogous art (Birrel, Paragraph [0004]).

64.   Claims 22-25 and 54-57 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Howard as applied to claims 1 and 33 above, and further in view of

Carter and Kashani.

65.   Regarding claim 22, Howard does not explicitly teach the response estimation

unit calculates a predetermined estimation value according to a degree to which the

response corresponds to the illegal response patterns stored in the illegal response

database; and the response determination unit compares the estimation value

calculated by the response estimation unit with a predetermined threshold value, and

determines whether the response is to be transmitted to the client. Carter teaches on

threshold value (Paragraph[0006,0218]….external transmission

unit(Paragraph[0006]….storage of information that is not transmitted(Paragraph[0006])

that is not transmitted….and update unit (Paragraph[0253]) but does not explicitly teach

about illegal responses. Kashani teaches on this aspect (Paragraph [0120]). Motivation

is the same as discussed in Claim 8 and Claim 20.

66.   Regarding claim 23, Howard, Carter and Kashani teach the filtering apparatus

according to claim 20, further comprising an external transmission unit which transmits

at least one of the response that is not transmitted to the client by the response

transmission unit and the access request causing the response, to a predetermined

external device based on a predetermined external transmission rule (Howard, col. 7,

line 66 – col. 8, line 20).

67.   Regarding claim 24, Howard, Carter and Kashani teach the filtering apparatus

according to claim 20, further comprising an storage unit which stores at least one of the

response that is not transmitted to the client by the response transmission unit and the

access request causing the response, in the predetermined storage medium based on a

predetermined storage rule (Howard, col. 7, line 66 – col. 8, line 20).

68.   Regarding claim 25, Howard, Carter and Kashani teach the filtering apparatus

according to claim 20, further comprising an update unit which updates the illegal

response database, the response estimation rule, the response determination rule, the

external transmission rule, and at least one of the storage rule and a predetermined

update rule, based on a predetermined update rule (Howard, col. 7, line 66 – col. 8, line

20).

69.   Regarding claim 54, Howard does not explicitly teach the response estimation

unit calculates a predetermined estimation value according to a degree to which the

response corresponds to the illegal response patterns stored in the illegal response

database; and the response determination unit compares the estimation value

calculated by the response estimation unit with a predetermined threshold value, and

determines whether the response is to be transmitted to the client. Carter teaches on

threshold value (Paragraph[0006,0218]….external transmission

unit(Paragraph[0006]….storage of information that is not transmitted(Paragraph[0006])

that is not transmitted….and update unit (Paragraph[0253]) but does not explicitly teach

about illegal responses. Kashani teaches on this aspect (Paragraph [0120]). Motivation

is the same as discussed in Claim 8 and Claim 20.

70.   Regarding claim 55, Howard, Carter and Kashani teach the filtering apparatus

according to claim 20, further comprising an external transmission unit which transmits

at least one of the response that is not transmitted to the client by the response

transmission unit and the access request causing the response, to a predetermined

external device based on a predetermined external transmission rule (Howard, col. 7,

line 66 – col. 8, line 20).

71.   Regarding claim 56, Howard, Carter and Kashani teach the filtering apparatus

according to claim 20, further comprising an storage unit which stores at least one of the

response that is not transmitted to the client by the response transmission unit and the

access request causing the response, in the predetermined storage medium based on a

predetermined storage rule (Howard, col. 7, line 66 – col. 8, line 20).

72.   Regarding claim 57, Howard, Carter and Kashani teach the filtering apparatus

according to claim 20, further comprising an update unit which updates the illegal

response database, the response estimation rule, the response determination rule, the

external transmission rule, and at least one of the storage rule and a predetermined

update rule, based on a predetermined update rule (Howard, col. 7, line 66 – col. 8, line

20).

Response to Arguments

73.   Applicant's arguments filed 08 January 2008 have been fully considered but they

are not persuasive.

Claim 1

74.   With respect to the rejection of claim 1 under 35 USC 103(a) as being

unpatentable over Howard (US 7,051,368) and Carter (US 2003/0051026), the

Applicant argues (a) neither Howard nor Carter teach, disclose or suggest estimating

the "legality of an access request," let alone "a pattern estimation unit which estimates

legality of an access request based on the illegal patterns stored in the illegal pattern

database and on a predetermined pattern estimation rule", (b) neither Howard nor

Carter teach, disclose, or suggest transmitting "the access request to the server when

the access request is estimated to be legal," let alone "a transmission unit which

controls transmission of the access request based on the determination result of the

pattern determination unit so as to transmit the access request to the server when the

access request is estimated to be legal", (c) neither Howard nor Carter teach, disclose,

or suggest calculating "a predetermined estimation value according to a degree of

correspondence of the access requests to the illegal access patterns stored in the illegal

pattern database," or comparing "the estimation value calculated by the pattern

estimation unit with a predetermined threshold value," to "determine whether the access

request is to be transmitted to the server", (d) the Office Action provides no motivation

or suggestion to combine the teachings of Howard and Carter as required by 35 USC

103(a) and the MPEP 706.02(j)(D).

75.   (a) With respect to argument (a), the examiner maintains the position set forth in

the previous office action and maintains that the Howard reference teaches on the claim

limitations of estimating the "legality of an access request" and "a pattern estimation unit

which estimates legality of an access request based on the illegal patterns stored in the

illegal pattern database and on a predetermined pattern estimation rule" as taught by

Howard in column 7, line 66 – column 8, line 20. Howard teaches the evaluation of a

string that is being sent from a client to a server location to determine if the string

contains an attack pattern. If an attack pattern is found the string can be identified as a string containing an attack pattern and remedial actions may be performed, for example, to block the string from being received at the server. The strings being sent from a client to a server can be for example a regular expression, a URL, or an HTTP verb request. Regarding that to which is claimed by applicants, legality of an access request is best understood given broadest reasonable interpretation, the access request being a message being sent to a server from a client device wherein legality of the message is understood as the determination of whether or not a message should or should not be allowed to be forwarded to a server. This interpretation is based on what is provided in the applicants' filed specification for example on page 13, lines 13-20. No real guidance is given within the claims as to what extent the term "estimation" is to be interpreted regarding scope. Therefore, what Howard teaches is deemed to be within the scope of the claimed limitation.

76.   (b) With respect to argument (b), the examiner maintains the position set forth in the previous office action and maintains that the Howard reference teaches on the claim limitations of "the access request to the server when the access request is estimated to be legal," let alone "a transmission unit which controls transmission of the access request based on the determination result of the pattern determination unit so as to transmit the access request to the server when the access request is estimated to be legal" wherein Howard teaches in column 7, lines 36-58 that if no attack patterns have been found, then processing continues as normal wherein the the request is transmitted from the client to the server.

77.   (c) With respect to argument (c), the examiner maintains the position set forth in

the previous office action and maintains that the Carter reference teaches on the claim

limitations of "a predetermined estimation value according to a degree of

correspondence of the access requests to the illegal access patterns stored in the illegal

pattern database," or comparing "the estimation value calculated by the pattern

estimation unit with a predetermined threshold value," to "determine whether the access

request is to be transmitted to the server" wherein Carter teaches on this aspect in

paragraph 0006 and 0447 wherein Carter teaches the calculation of comparisons to

prior occurrences to infer appropriate countermeasures and wherein the knowledge

learned from new threats may be communicated to other systems. Carter teaches in

paragraph 0006 the analyzing of communications to ensure that a network operates as

intended and detects threats within the network and teaches further in paragraph 0470

the prediction of events based on statistical analysis with respect to probable outcomes.

The system taught by Carter detects network security problems by drawing

comparisons to prior occurrences to infer appropriate countermeasures.

        (d) With respect to argument (d), the examiner maintains the combination of

Carter with Howard. In response to applicant's argument that there is no suggestion to

combine the references, the examiner recognizes that obviousness can only be

established by combining or modifying the teachings of the prior art to produce the

claimed invention where there is some teaching, suggestion, or motivation to do so

found either in the references themselves or in the knowledge generally available to one

of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir.

1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case,

one of ordinary skill in the art at the time of invention would have been motivated to

combine Carter with Howard wherein Carter teaches in paragraph 0005 the ability to

expand a knowledge base with information relating to unanticipated events is desirable

in a network system.

Claims 33, 34, 36, 38-51 and 58-62

78.   Applicant's arguments set forth with respect to claims 33, 34, 36, 38-51 and 58-

62 are not found persuasive for the same reasons set forth with respect to claim 1

above.

Claim 65

79.   Applicant's arguments set forth with respect to claim 65 are not found persuasive

for the same reasons set forth with respect to claim 1 above.

Claim 66

80.   Applicant's arguments set forth with respect to claim 66 are not found persuasive

for the same reasons set forth with respect to claim 1 above.

Claim 67

81.   Applicant's arguments set forth with respect to claim 67 are not found persuasive

for the same reasons set forth with respect to claim 1 above.

Claims 31, 32, 63 and 64

82.   Applicant's arguments set forth with respect to claims 31, 32, 63 and 64 are not

found persuasive for the same reasons set forth with respect to claim 1 above.

Claims 20, 21, 52 and 53

83.   Applicant's arguments set forth with respect to claims 20,.21, 52 and 53 are not

found persuasive for the same reasons set forth with respect to claim 1 above.

Claims 22-25 and 54-57

84.   Applicant's arguments set forth with respect to claims 22-25 and 54-57 are not

found persuasive for the same reasons set forth with respect to claim 1 above.

85.   Therefore, the filed claims are not found patentable over the cited prior art of

record.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Benjamin Ailes whose telephone number is (571)272-

3899. The examiner can normally be reached Monday-Friday, 5:30-8:30AM, 1:00-

6:00PM, IFP Hoteling schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Andrew Caldwell can be reached on 571-272-3868. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew Caldwell/
Supervisory Patent Examiner, Art
Unit 2142

/B. A. A./
Examiner, Art Unit 2142